

DAKOTA HOPS BUSINESS MODEL DEVELOPMENT PROJECT

Project Sponsor / Client: Dakota Hops, LLC

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Project Term: Fall 2012 – Spring 2013

SDSM&T Project Program: Industrial Engineering & Engineering Management

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Project Overview:

Dakota Hops, LLC. was formed to investigate the production feasibility of frozen hops for specialty home brew and microbrew beers in the State of South Dakota. The typical industrial process for the production of hops requires them to be kiln-dried at approximately 145°F for 8 – 10 hours until the water content is reduced to under 10% by weight. This drying process has the side-effect of reducing acids and oils desired by specialty brewers. The alternative processes under consideration are to vacuum seal and freeze the hops either conventionally or cryogenically . The processes are being investigated in an SBIR grant at the start-up phase, and a business model must be developed that is scalable for small- and medium-sized agribusinesses. There is an immediate need to quantify and develop a model for the business environment meeting granting agency standards.

For the Business Model Development Project the firm is seeking the following deliverables:

- Identification and quantification of the existing market niches, including risk analysis and performing a SWOT analysis
- Develop existing process specifications (product sizes, shapes, storage parameters) into viable/optimal options for addressing target market niches (including House of Quality model)
- Investigate and develop production cost estimates, profitability and price-points for the production process, and suggesting appropriate distribution logistics and marketing strategies

Project Interfacing:

In order to meet the requirements for further SBIR development funding, this project will need to coordinate with the production improvement project to inform decisions on product parameters for cost/producibility and distribution logistics. It is expected that the team will need to allow one and a half hours every other week (outside of scheduled reporting) for interfacing with Dakota Hops.

Project Team Requirements and Deliverables Description:

This project will require a team of approximately four senior design students. Software to document the processes will be selected by the student team, and may include MS Excel, Visio or other SDSMT-available packages.

The following deliverable items are expected for this project:

Niche Identification, SWOT and Risk Analysis – identify the preliminary business model and perform a basic market analysis; use the market analysis to identify strengths, weaknesses, opportunities and threats; and quantify/estimate the risks to the business (as modeled) under the most probable scenarios.

Product House(es) of Quality and Product Specifications Development - in concert with the Production Process Improvement Project, create a House of Quality model to assess the frozen hops products for the target market(s) with respect to current dry hops products to evaluate and target needed improvements and target specifications.

Develop Market and Distribution Logistics Plans – design a plan for marketing the frozen hops product(s) and distributing them to likely clients, also considering the supply chain and seasonality for both the raw materials, finished products, and other companion products to maximize transportation efficiencies.

These items are expected within the time frames and along with the other deliverables described in the Industrial Engineering and Engineering Management Senior Design Projects document. That document provides a more complete description of the process, deliverables, and timing of SDSM&T IEEM Senior Design Projects.